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EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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DETAILED ACTION

1. This action is in response to applicant's amendment filed on 21 May 2009. **Claims 1, 5-13, 16-17, 19, 21, and 33-36** are now pending in the present application and **claims 2-4, 14-15, 18, 20, and 22-32** are canceled. The BPAI decision has affirmed prior rejection of claims 1, 5-13, 16-17, 19, and 21 (i.e., appealed claims 1-3 and 5-32). This office action is made **Non-Final**.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 May 2009 has been entered.

Claim Objections

3. **Claims 6 and 13** are objected to because of the following informalities:
 - a. Claim 6 is improperly labeled as "Previously Presented" but the claim includes amended language. For example, the limitation "...IEEE..." has been amended to the limitation "...EEE..." on line(s) 2 of the claim. The Examiner interprets the claims as --Currently Amended-- and suggests clarifying the claim status. See spec. pg. 1, lines 14-17 and claim 21.

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- b. Claim 13 is improperly labeled as “Previously Presented” but the claim includes amended language. The Examiner interprets the claim as --Currently Amended-- and suggests clarifying the claim status.

Appropriate correction is required.

4. This list of examples is not intended to be exhaustive.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 8-10, 12-13, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) with further support by **Salonaho et al.** (hereinafter Salonaho) (**US 6,594,495 B2**).

Regarding **claim 1**, Berg discloses a method of selecting a frequency band for use in a desired wireless communication from among a plurality of frequency bands available to be used for the desired wireless communication (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; Figs. 2 & 4), where the radio communications system has carrier frequency bands, comprising:

producing narrow band measurements of a frequency band by passively monitoring (e.g., scanning) the plurality of frequency bands (see abstract; col. 2, line 65 - col. 3, line 17; col. 3,

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lines 38-48; col. 4, lines 27-39; col. 6, lines 29-39; col. 7, lines 48-65; col. 9, lines 4-17; Figs. 2, 4, & 7-9), where the system measures interference;

summing the narrow band measurements of the frequency band to produce a signal quality indication (see col. 6, lines 29-39; col. 9, lines 4-44; Fig. 7 “ref. 2-6”), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands; and

selecting a frequency band for the desired wireless communication in response to the signal quality indication (see col. 3, lines -6, 11-17; col. 5, lines 8-12; col. 9, lines 9-30; Figs. 2, 4, & 7-9). Berg clearly discloses the feature(s) as indicated above as evidenced by the fact that one of ordinary skill in the art would clearly recognize. However, the examiner maintains that the feature(s) summing the narrow band measurements of the frequency band was well known in the art, as taught by Salonaho.

As further support in the same field of endeavor, Salonaho at the least discloses the feature summing the narrow band measurements of the frequency band (see col. 3, lines 38-54; col. 4, lines 9-14; col. 1, lines 34-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg as further supported by Salonaho to have the feature summing the narrow band measurements of the frequency band, in order to provide a method and system in which a load can be optimally controlled to prevent overload situations and improve connection quality, as taught by Salonaho (see col. 2, lines 23-29).

Regarding **claim 5**, the combination of Berg and Salonaho discloses every limitation claimed, as applied above (see claim 1), in addition Berg further discloses the method of

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claim 1, wherein said plurality of frequency bands are narrow frequency bands (e.g., C_{2.6}) comprising a wide frequency band (e.g., C¹) (see col. 7, line 48 - col. 8, line 6; col. 9, lines 4-30; Figs. 2 & 7 “ref. 2-6”).

Regarding **claim 8**, the combination of Berg and Salonaho discloses every limitation claimed, as applied above (see claim 1), in addition Berg further discloses the method of claim 1, wherein the producing includes each of two wireless communication stations (e.g., 30, 34, 40) passively monitoring at least some of said plurality of frequency bands (see col. 2, line 65 - col. 3, line 7; col. 5, line 21 - col. 6, line 2; col. 14, lines 1-8; Figs. 10-13).

Regarding **claim 9**, the combination of Berg and Salonaho discloses every limitation claimed, as applied above (see claim 8), in addition Berg further discloses the method of claim 8, including one of said wireless communication stations (e.g., 30, 34, 40) communicating with the other of said wireless communication stations (e.g., 30, 34, 40) regarding results of said passive monitoring (e.g., scanning) (see col. 5, line 21 - col. 6, line 2; col. 14, lines 1-8; Figs. 10-13).

Regarding **claim 10**, the combination of Berg and Salonaho discloses every limitation claimed, as applied above (see claim 1), in addition Berg further discloses the method of claim 1, wherein the producing includes passively monitoring a group (e.g., plurality) of the available frequency bands, and tuning a filter to each of said group of available frequency bands (see abstract; col. 9, lines 3-21; col. 12, line 40 - col. 13, line 5; Figs. 2, 4, & 7-9), where the tuning a filter would be inherent in order to process each of the available bands a filter must be tuned to each available frequency band.

Regarding **claim 12**, the combination of Berg and Salonaho discloses every limitation claimed, as applied above (see claim 1), in addition Berg further discloses the method of claim 1, wherein said selecting step includes the wireless communication station (e.g., 30, 34, 40) informing another wireless communication station (e.g., 30, 34, 40) of the selected frequency band (see col. 12, line 40 - col. 13, line 5; col. 14, lines 1-8).

Regarding **claim 13**, Berg discloses a wireless communication station (e.g., 30, 34, 40) (see Figs. 11-13), comprising:

an antenna (e.g., 31, 35) for use in wireless communications (see col. 12, lines 3-7; col. 13, lines 42-48, 57-62; Figs. 11-13);

a band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) coupled to said antenna (e.g., 31, 35) (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; col. 5, line 52 - col. 6, line 2; col. 6, lines 2-40; Figs. 2 & 4), the band selection controller including:

i. a filter producing filtered outputs for narrow bands of a selected channel received from the antenna (e.g., 31, 35) (see abstract; col. 2, line 65 - col. 3, line 6; col. 3, lines 38-48; col. 4, lines 27-39; col. 5, line 52 - col. 6, line 2; col. 6, lines 20-40; col. 7, lines 48-65; col. 9, lines 4-17; col. 12, lines 41-51; Figs. 2, 4, & 7-9) and a filter would be implicit in order to process each of the available bands in which a filter must be tuned to each available frequency band (see abstract; col. 9, lines 3-21; col. 12, line 40 - col. 13, line 5; Figs. 2, 4, & 7-9);

ii. a measurement portion (e.g., combination of scanning means 52 and central control and application logic 51) connected with the filtered outputs to produce measurements of

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each of the narrow bands (see col. 6, lines 29-39; col. 9, lines 4-44; Fig. 7 “ref. 2-6”), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands, and

iii. a selection portion (e.g., combination of scanning means 52 and central control and application logic 51) connected to the measurement portion and selecting a frequency band for wireless communication in response to summing the measurements of the narrow bands (see abstract; col. 3, lines 1-6, 11-17; col. 5, lines 8-12; col. 5, line 52 - col. 6, line 2; col. 9, lines 9-30; col. 12, lines 41-60; Figs. 2, 4, 7-9, & 11-13), where the bandwidth (e.g., 1 MHz & 5 MHz) of the at least one available frequency band is selected, if deemed acceptable, to form, by itself or in combination with other acceptable available frequency bands, the at least one frequency band for the desired communication (see col. 7, lines 19-32; col. 8, lines 50-56; col. 9, lines 1-30; Fig. 7). Berg clearly discloses the feature(s) as indicated above as evidenced by the fact that one of ordinary skill in the art would clearly recognize. However, the examiner maintains that the feature(s) summing the measurements of the narrow bands was well known in the art, as taught by Salonaho.

As further support in the same field of endeavor, Salonaho at the least discloses the feature(s) summing the measurements of the narrow bands (see col. 3, lines 38-54; col. 4, lines 9-14; col. 1, lines 34-38). As a note, Salonaho discloses the feature(s) a filter (see 6, lines 41-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg as further supported by Salonaho to have the feature(s) summing the measurements of the narrow bands, in order to provide a

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method and system in which a load can be optimally controlled to prevent overload situations and improve connection quality, as taught by Salonaho (see col. 2, lines 23-29).

Regarding **claim 16**, the combination of Berg and Salonaho discloses the wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled between said antenna (e.g., 31, 35) and said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51), said wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) cooperable with said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) and said antenna (e.g., 31, 35) for communicating to another wireless communication station (e.g., 30, 34, 40) information indicative of a result of the selection portion (see col. 5, line 21 - col. 6, line 2; col. 6, lines 20-39; col. 12, line 41 - col. 13, line 5; col. 14, lines 1-8; Figs. 11-13).

Regarding **claim 19**, the combination of Berg and Salonaho discloses the wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled to said antenna (e.g., 31, 35) for interfacing between, said antennae and a communications application (e.g., cordless application), said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51) including a portion (e.g., scanning means 52) of said wireless communications interface (see col. 12, lines 41-60; Figs. 11-13).

Regarding **claim 33**, Berg discloses the method of claim 1 in which the producing measurements includes producing measurements of the energy in each narrow band (see

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abstract; col. 2, line 65 - col. 3, line 17; col. 3, lines 38-48; col. 4, lines 27-39; col. 6, lines 29-39; col. 7, lines 48-65; col. 9, lines 4-17; Figs. 2, 4, & 7-9), where the system measures interference, and

the summing includes summing the energy in the narrow band measurements (see col. 6, lines 29-39; col. 9, lines 4-44; Fig. 7 “ref. 2-6”), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands. Berg clearly discloses the feature(s) as indicated above as evidenced by the fact that one of ordinary skill in the art would clearly recognize. However, the examiner maintains that the feature(s) summing the energy in the narrow band measurements was well known in the art, as taught by Salonaho.

As further support in the same field of endeavor, Salonaho at the least discloses the feature summing the energy in the narrow band measurements (see col. 3, lines 38-54; col. 4, lines 9-14; col. 1, lines 34-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg as further supported by Salonaho to have the feature summing the energy in the narrow band measurements, in order to provide a method and system in which a load can be optimally controlled to prevent overload situations and improve connection quality, as taught by Salonaho (see col. 2, lines 23-29).

Regarding **claim 34**, Berg discloses the method of claim 1 in which the producing measurements includes producing received signal strength indication measurements of the energy in each narrow band (see col. 6, lines 33-37), where the system has a scanning means (52) in which a received signal strength indication would be implicit to provide signal

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strength measurements as evidenced by the fact that one of ordinary skill in the art would clearly recognize, and

the summing includes summing the energy in the narrow band measurements (see col. 6, lines 29-39; col. 9, lines 4-44; Fig. 7 “ref. 2-6”), where the results of the scanning are combined to determine an interference-free frequency band of the carrier frequency bands. Berg clearly discloses the feature(s) as indicated above as evidenced by the fact that one of ordinary skill in the art would clearly recognize. However, the examiner maintains that the feature(s) summing the energy in the narrow band measurements was well known in the art, as taught by Salonaho.

As further support in the same field of endeavor, Salonaho at the least discloses the feature summing the energy in the narrow band measurements (see col. 3, lines 38-54; col. 4, lines 9-14; col. 1, lines 34-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg as further supported by Salonaho to have the feature summing the energy in the narrow band measurements, in order to provide a method and system in which a load can be optimally controlled to prevent overload situations and improve connection quality, as taught by Salonaho (see col. 2, lines 23-29).

Regarding **claims 35-36**, the claims as applied to claim 13 are rejected for the same reasons as set forth above in **claims 33-34**, respectively.

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Claims 6-7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) with further support by **Salonaho et al.** (hereinafter Salonaho) (**US 6,594,495 B2**) as applied to claims 1, 5, and 13 above, and further in view of Admitted Prior Art (**MPEP 2144.03**).

Regarding **claim 6**, the combination of Berg and Salonaho discloses every limitation claimed as applied above in claim 5. Berg further discloses that his invention can be applied to several different technologies operating on the same geographical area and using the same frequency band (see col. 1, lines 57-63). The combination of Berg and Salonaho does not specifically disclose the feature wherein the wide frequency band is an IEEE 802.11b band. However, the examiner takes official notice of the fact that it was notoriously well known in the art to the feature wherein the wide frequency band is an IEEE 802.11b band.

As a note, one of ordinary skill in the art would clearly recognize the common knowledge of having the feature wherein the wide frequency band is an IEEE 802.11b band are well known standard in which wireless communication stations operate and communicate within the frequency band (i.e., 2.4 GHZ).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Berg with Salonaho by specifically having the feature wherein the wide frequency band is an IEEE 802.11b band, for the purpose of avoiding interference and management of the frequency band can be efficiently accomplished between the wireless communication stations.

Regarding **claim 7**, the combination of Berg and Salonaho every limitation claimed as applied above in claim 1. Berg further discloses that his invention can be applied to

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several different technologies operating on the same geographical area and using the same frequency band (see col. 1, lines 57-63). The combination of Berg and Salonaho does not specifically disclose the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band. However, the examiner takes official notice of the fact that it was notoriously well known in the art to the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band.

As a note, one of ordinary skill in the art would clearly recognize the common knowledge of having the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band are well known standard in which wireless communication stations operate and communicate within the frequency band (i.e., 2.4 GHZ).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Berg with Salonaho by specifically having the feature wherein at least one frequency band of the plurality of frequency bands is a Bluetooth 2.0 band, for the purpose of avoiding interference and management of the frequency band can be efficiently accomplished between the wireless communication stations.

Regarding **claim 21**, the claims according to claim 13 is rejected for the same reasons as set forth above in the rejection of claims 6 and 7.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) with further support by **Salonaho et al.** (hereinafter

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Salonaho) (**US 6,594,495 B2**) as applied to claim 1 above, and further in view of **West (US 5,574,979)**.

Regarding **claim 11**, the combination of Berg and Salonaho discloses every limitation claimed as applied above in claim 1. The combination of Berg and Salonaho does not specifically disclose having the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference. However, the examiner maintains that the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference was well known in the art, as taught by West.

In the same field of endeavor, West discloses the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference (4501) (see col. 3, line 64 - col. 4, line 23; col. 5, line 62 - col. 6, line 6; col. 61, lines 15-42; Fig. 45), where the system detects interference from associated with a microwave oven.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg, Salonaho, and West to have the feature(s) wherein the plurality of frequency bands includes a frequency band associated with microwave oven interference, in order to provide a radio frequency communication system that detects interference and determines whether such interference is periodic, as taught by West (see col. 4, lines 11-13).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Van De Berg** (hereinafter Berg) (**US 5,907,812**) with further support by **Salonaho et al.** (hereinafter

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Salonaho) (US 6,594,495 B2) as applied to claim 1 above, and further in view of **Souissi et al.** (hereinafter Souissi) (US 6,327,300 B1).

Regarding **claim 17**, Berg discloses the wireless communication station of claim 13, including a wireless communications interface (e.g., transmitter & modulator 44 and receiver & demodulator 45) coupled between said antenna (e.g., 31, 35) and said band selection controller (e.g., combination of scanning means 52 and central control and application logic 51), said wireless communications interface cooperable with said antenna for receiving and providing to said band selection controller a passive monitoring (e.g., scanning) result which is associated with the said each frequency band and which has been obtained and transmitted by another wireless communication station (e.g., 30, 34, 40) (see col. 5, line 21 - col. 6, line 2; col. 6, lines 20-39; col. 12, line 41 - col. 13, line 5; col. 14, lines 1-8; Figs. 11-13). The combination of Berg and Salonaho does not specifically disclose having the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station. However, the examiner maintains that the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station was well known in the art, as taught by Souissi.

In the same field of endeavor, Souissi discloses the feature(s) said band selection controller (e.g., processor or controller 12) operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said

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result received from said another wireless communication station (e.g., second transceiver station) (see col. 2, lines 22-35,60-65; col. 3, line 20 - col. 4, line 3; Figs. 1-2), where transceiver (10) includes processor (12) that receives a communication request from a second transceiver device on a dynamically selected portion of the spectrum selected.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Berg, Salonaho, and Souissi to have the feature(s) said band selection controller operable for determining whether said each frequency band is acceptable for the desired wireless communication in response to said result received from said another wireless communication station, in order to significantly enhance the dynamic selection of the frequency band to be used in the desired communication by, for example, accounting for unknown interferers to one of the transceiver devices during the selection process, as taught by Souissi (see col. 3, lines 37-44).

Response to Arguments

6. Applicant's arguments with respect to claims **1, 5-13, 16-17, 19, 21, and 33-36** have been considered but are moot in view of the new ground(s) of rejection necessitated by the amended language, new limitations, and/or new claims.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations and comments in this section).

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7. Regarding claims 6-7 and 21, the applicant did not traverse the Examiner's assertion of official notice stated in the action(s) mailed 03 February 2009, 16 June 2008, 28 November 2005, and 03 November 2004. As a result, the Examiner's statement is hereby taken to be well-known admitted prior art or common knowledge because the applicant failed to traverse the Examiner's assertion of official notice. Therefore, the applicant must agree with the Examiner's assertion of official notice.
8. The Examiner requests applicant to provide support (e.g., page(s), line(s), and drawing(s) as well as comments) for the amended claim language and any further amended claim language.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Duque-Anton et al. (US 5,987,055) discloses a spread-spectrum based cellular mobile radio system, and a control arrangement, a radio based station, and a mobile radio station.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIE J. DANIEL JR whose telephone number is (571)272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,Jr/

WJD,Jr
15 June 2009

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617